

What is claimed is:

1. In a data packet router, a method for redirecting packets destined for a port, comprising the steps of:
  - 5 (a) monitoring port status on a continuing or periodic basis;
  - (b) updating a port-status table, listing port status as active or failed and an alternative destination for each port;
  - (c) checking the table by circuitry along a packet route for a packet en route; and
  - 10 (d) sending the received packet to the predestined port if the port is listed in the table as active, and sending the received packet to the alternative destination if the port is listed in the table as failed.
2. The method of claim 1 wherein the port-status table is stored in a fabric  
15 interface circuitry and checking and redirecting is implemented in the fabric circuitry.
3. The method of claim 1 wherein the port-status table is stored in one of a Global Fabric ASIC on a line card or a Packet Processing ASIC (PPA) on a  
20 line card, and redirection is enabled by a CPU on the line card.
4. The method of claim 1 wherein the operations of the interface circuitry in steps (c) and (d) are implemented in hardware logic.
- 25 5. The method of claim 1 wherein, in step (d) the alternative destination is a PPA on an alternate line card.

6. The method of claim 1 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

- 5     7. A router card enabled for Automatic Protection Switching (APS), and comprising:

        one or more circuits enabled for forwarding data packets; and  
        a port-status table;

- characterized in that the port-status table lists individual port's status  
10    as active or failed, and also alternative destinations for the ports, and in that  
      packets predestined for failed ports are redirected to alternative ports.

8. The card of claim 7 wherein the card is a line card comprising one or  
      more Global Fabric application-specific integrated circuits (GFRs) as  
15    interface circuits to interconnecting fabric.

9. The card of claim 7 wherein the card is a fabric card interconnecting line  
      cards.

- 20    10. The card of claim 7 wherein the operations of the one or more circuits  
      for forwarding are implemented in hardware logic.

11. The card of claim 7 wherein the alternative destination for a redirected  
      packet is a port on a line card.

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12. The card of claim 7 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

13. A data packet router having externally-facing line cards internally connected by fabric cards, wherein individual ones of the cards comprise:

one or more circuits enabled for forwarding data packets; and  
5 a port-status table;

characterized in that the port-status table lists individual port's status as active or failed, and also alternative destinations for the ports, and in that packets predestined for failed ports are redirected to alternative ports.

10 14. The router of claim 13 wherein the line card comprises one or more Global Fabric application-specific integrated circuits (GFRs) as interface circuits to interconnecting fabric.

15 15. The router of claim 13 wherein the operations of the one or more circuits for forwarding are implemented in hardware logic.

16. The router of claim 13 wherein the alternative destination for a redirected packet is a port on a line card.

20 17. The router of claim 13 wherein pre-destinations and alternative destinations are noted by destination tags associated with packets in process.

25 18. The method of claim 1 wherein the port status table is a distributed table with portions stored in separate places.

19. The method of claim 1 wherein the alternative destination is on the same line card receiving and redirecting the packets.

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	